

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
9 June 2005 (09.06.2005)

PCT

(10) International Publication Number
WO 2005/052378 A1

(51) International Patent Classification⁷: F04D 29/42, 29/16, 29/62

(21) International Application Number: PCT/GB2004/004751

(22) International Filing Date: 11 November 2004 (11.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 0326534.5 14 November 2003 (14.11.2003) GB

(71) Applicant (for all designated States except US): WEIR WARMAN LIMITED [GB/GB]; Halifax Road, Todmorden, Lancashire OL14 5RT (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): CLARENCE, Nigel, Paul [GB/GB]; 406 Birch Road, Wardle, Rochdale, Lancashire OL12 9LX (GB). COLLINGS, Richard, J. [GB/GB]; Spinney Hill, Cutsey, Trull, Taunton, Somerset TA3 7NY (GB). WELLS, Ian, Howard [GB/GB]; 4 Church Lane, Whalley, Clitheroe, Lancashire BB7 9SY (GB).

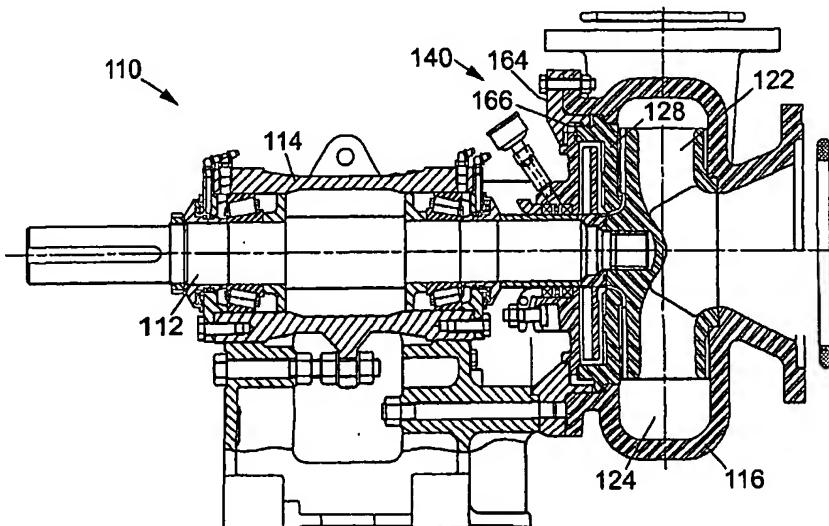
(74) Agents: SZCZUKA, Jan, Tymoteusz et al.; Marks & Clerk, 19 Royal Exchange Square, Glasgow G1 3AE (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: PUMP INSERT AND ASSEMBLY



(57) Abstract: A pump insert (128) has an inner surface which in use defines a portion of a volute (124) of a pump (110) wherein said pump insert (128) is adapted to be coupled with a pump casing (116) by an inter-engaging profiled coupling arrangement (166). In one disclosed embodiment the pump insert (128) is adapted to engage a pump casing closure plate (148) which is locatable about a pump shaft (112) and between the pump insert (148) and the pump casing (110).

WO 2005/052378 A1



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*